

**REMARKS**

This is a full and timely response to the non-final Office Action (Paper No. 4) mailed by the U.S. Patent and Trademark Office on March 3, 2003. Claims 1-22 remain pending. Reconsideration of the pending claims is respectfully requested, in view of the preceding amendments and the following remarks. Each objection and rejection presented in the Office Action is discussed in the remarks that follow.

**I. Objection - Oath or Declaration**

**A. Statement of the Objection**

The Office Action objection alleges that the declaration is defective because the inventor did not sign the declaration.

**B. Discussion of the Objection - Oath or Declaration**

Applicant respectfully traverses the objection. Applicant includes in Appendix A a copy of a Declaration signed by the inventor on May 30, 2000. Note that the executed Declaration was returned to our offices with a copy of the application as filed attached. The Declaration was mailed to the USPTO on August 21, 2000 in response to the Notice to File Missing Parts of a Non-Provisional Application mailed August 11, 2000.

Applicant submits that the Declaration mailed August 21, 2000 meets all the requirements under 35 U.S.C. §1.63. Specifically, the declaration is signed by the inventor; identifies the inventor by his full name; identifies the inventor's country of citizenship; includes a statement that the inventor believes he is the original and first inventor of the subject matter which is claimed and for which a patent is sought; identifies the application by its title; states that the person making the oath or declaration has reviewed and understands the contents of the application, including the claims, as amended by any amendment specifically referred to in the oath or declaration; states that the person making the oath or declaration acknowledges the duty to disclose to the Office all information known to the person to be material to patentability; and includes the mailing address where the inventor customarily receives mail. Accordingly, Applicant respectfully requests that the objection to the Declaration be withdrawn.

**II. Claim Rejections Under 35 U.S.C. §102 - Claims 9 and 11-14**

**A. Statement of the Rejection**

Claims 9 and 11-14 presently stand rejected under 35 U.S.C. §102(b) as allegedly anticipated by Shuen. (U.S. Patent No. 5,572,528 "the '528 patent.")

**B. Discussion of the Rejection - Claims 9 and 11-14**

**1. Claims 9 and 11-14**

Applicant respectfully traverses the rejection of claims 9 and 11-14 under 35 U.S.C. §102(b) for at least the reason that the cited reference fails to disclose, teach, or suggest each element in the claims.

It is well established that "anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration." *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 Fed 2d 1540, 220 U.S.P.Q. 303, 313 (Fed Cir 1983). The present rejection fails to meet the burden of identifying a single prior art reference that discloses, teaches, or suggests each feature of the claimed invention.

Applicant's claimed invention is fundamentally different than the system and method apparently disclosed in the '528 patent. As the title of the '528 patent indicates, it is directed to mobile networking. The '528 apparently discloses a method for managing a virtual address of a mobile node. A system includes routers between networks, which may be bridged networks. Certain routers are configured as home routers. Home routers bind two addresses for each mobile node on a given network when that node logs-in with a home router. Mobile nodes log-in with a home router that assigns a virtual address that does not change throughout a session. Each time, a mobile node roams to another network across a router boundary, the virtual address remains the same and all packets directed to the mobile node are received by the home router which advertises that it can reach the mobile node. As the mobile node roams, it reports back to the home router a local address to which the home router forwards all packets directed originally by correspondent nodes to the virtual address. Mobile nodes may log-in to a router many hops removed from a local area network of the situs. Mobile nodes may also roam across wide area links. ('528 Patent - Abstract.)

In contrast, Applicant's claimed invention is directed to logically connecting one or more local area networks to devices accessible via a wide area network. In one embodiment of a SOHO network, each computer within a first and second local area

network (LAN) stores a bridge/router software package prior to initiation of the LANs. At initiation, all computers within the first and second LANs obtain the media access control (MAC) address of all other computers within the SOHO network. The first computer to locate a digital subscriber line or some other wide area network link becomes a master PC. The remaining computing devices in the SOHO network become slave PCs.

Data to be transmitted from the first local area network to the second local area network, or visa-versa, is first transmitted to the master PC, which determines whether the data is to be transferred within the SOHO or to a wide area network (WAN). If the master PC determines that the destination of the data is one of the slave PCs, the master PC transfers the data to its intended destination slave PC according to the previously obtained media access control addresses, thereby logically connecting the first and second LAN via the software bridge/router provided by the master PC. When data is to be transmitted from a computer within the SOHO network to the WAN the data is transmitted to the master PC. If the master PC determines that the destination of the data is the WAN, the master PC performs a protocol conversion if necessary and then logically connects the SOHO to the WAN for data transmission. Similarly, when data is to be received by a computer within the SOHO network, from the WAN, the WAN transmits the data to the master PC, which then performs a protocol conversion if necessary and transmits the data to the appropriate slave PC.

Managing a mobile node by forwarding information to one of a plurality of routers (*i.e.*, the home router that advertises that it can reach the mobile node) as the mobile node roams, as apparently disclosed in the '528 patent, is not Applicant's claimed software bridge/router system for providing a logical connection between a first LAN, a second LAN, and a wide area network.

For convenience of analysis, Applicant's independent claim 9 is repeated below in its entirety.

9. A software bridge/router system for providing a logical connection between a first local area network (LAN), having a first series of computers therein, a second LAN, having a second series of computers therein, and a wide area network, wherein said first LAN and said second LAN are located within a small office, home office (SOHO) computer network, comprising:

***a master computer which is capable of identifying all computers within said first LAN and said second LAN;***  
and

***a first slave computer located within one of said first LAN and said second LAN, and a second slave computer located within one of said first LAN and said second LAN,*** wherein said master computer provides for communication between said first slave computer and said second slave computer, and between said SOHO computer network and said wide area network (WAN).

(Applicant's independent claim 9 - *emphasis added*.)

The cited art of record fails to disclose, teach, or suggest at least the emphasized elements of pending claim 9 as shown above. Consequently, claim 9 is allowable.

Specifically, the '528 patent fails to disclose, teach, or suggest at least Applicant's claimed "***master computer which is capable of identifying all computers within said first LAN and said second LAN.***" In this regard, the Office Action rejection alleges that FIGs. 1-3 and 13; column 1, line 51 to column 2, line 15; and column 12, lines 51-67 teach this element. (Office Action, Paper No. 4, Page 3, item 10.) Applicant respectfully disagrees with this interpretation of the system and method of the '528 patent.

The network of FIG. 1 apparently illustrates a first network including a server, a home router, a node, a wireless access point, a mobile client and a router. A second network, coupled to the first network via a WAN link includes two servers, three routers, a node, a mobile client, and a wireless access point. The computing devices in FIG. 1 do not suggest Applicant's master computer. At best, FIG. 1 illustrates a first network and a second network. A first network and a second network do not describe, teach, or suggest Applicant's claimed "***master computer which is capable of identifying all computers within said first LAN and said second LAN.***"

FIG. 2 of the '528 patent appears to illustrate a single hybrid network comprising a bridge, two servers, a home router, three wired nodes, and a plurality of wireless access points with wirelessly coupled nodes. For at least the reason that FIG. 2 does not illustrate more than one network, Applicant submits that FIG. 2 cannot teach Applicant's claimed "***master computer which is capable of identifying all computers within said first LAN and said second LAN.***"

In addition, the computing devices in FIG. 2 do not suggest Applicant's master computer. Moreover, the detailed description of FIG. 2 fails to describe, teach, or suggest Applicant's claimed "**master computer which is capable of identifying all computers within said first LAN and said second LAN.**" For at least this additional reason, Applicant submits FIG. 2 and the related detailed description do not disclose, teach, or suggest Applicant's claimed invention.

FIG. 3 of the '528 patent apparently illustrates a mobile host and a fixed host connected to a bridged local area network. For at least the reason that FIG. 3 does not illustrate more than one network, Applicant submits that FIG. 3 cannot teach Applicant's claimed "**master computer which is capable of identifying all computers within said first LAN and said second LAN.**"

Furthermore, the mobile host, the fixed host, the server, the bridge, and the various routers illustrated in FIG. 3 do not suggest Applicant's master computer. Moreover, the detailed description related to FIG. 3 does not describe, teach, or suggest Applicant's claimed "**master computer which is capable of identifying all computers within said first LAN and said second LAN.**" For at least this additional reason, FIG. 3 and the related detailed description do not disclose, teach, or suggest Applicant's claimed invention.

FIG. 13 of the '528 patent appears to illustrate a method for coupling a mobile host to a correspondent host using an access point and routers configured between two or more networks. Importantly, FIG. 13 and the related detailed description fail to disclose, teach, or suggest Applicant's claimed "**master computer which is capable of identifying all computers within said first LAN and said second LAN.**" A mobile host, a correspondent host, and a plurality of routers coupling three networks do not suggest Applicant's master computer. In addition, the detailed description related to FIG. 13 does not describe, teach, or suggest Applicant's claimed "**master computer which is capable of identifying all computers within said first LAN and said second LAN.**"

The statement of the rejection further alleges that column 1, line 51 to column 2, line 15; and column 12, lines 51-67 of the '528 patent teach this element. Column 1, line 51 to column 2, line 15 apparently describes primary, secondary, and tertiary networks and coupling these networks using routers. Column 12, lines 51-67 of the '528 patent further describes how a router receives and forwards messages along a

network. A router is a device that forwards data packets (*i.e.*, messages) along networks. A router is connected to at least two networks, commonly two LANs or WANs or a LAN and an Internet service providers network. Routers are located at gateways (*i.e.*, the places where two or more networks connect.) Routers use message headers and forwarding tables to determine the best path for forwarding the data packets. Some routers communicate with each other to configure a route between two hosts. However, a router is not Applicant's claimed master computer. A router does not identify computers within first and second LANs.

For at least the reason that FIGs. 1-3 and 13 and the cited portions of the '528 patent do not disclose, teach, or suggest Applicant's claimed master computer, the '528 patent does not anticipate Applicant's claim 9. Accordingly, Applicant's independent claim 9 is allowable.

Furthermore, the '528 patent does not disclose, teach, or suggest "***a first slave computer located within one of said first LAN and said second LAN, and a second slave computer located within one of said first LAN and said second LAN*** wherein said master computer provides for communication between said first slave computer and said second slave computer, and between said SOHO computer network and said wide area network (WAN)." The Office Action rejection alleges that FIGs. 1-3 and 13; column 1, line 51 to column 2, line 15; column 13, lines 1-42; column 16, lines 4-27; and column 15, line 63 to column 16, line 16 teach this element. (Office Action, Paper No. 4, Pages 3-4, items 11 and 12.) Applicant respectfully disagrees with this interpretation of the system and method of the '528 patent.

As shown above, each of FIGs. 1-3 and 13 and their related detailed descriptions fail to disclose, teach, or suggest Applicant's claimed master computer. Consequently, these portions of the '528 patent cannot disclose, teach, or suggest Applicant's claimed "***first slave computer located within one of said first LAN and said second LAN, and a second slave computer located within one of said first LAN and said second LAN wherein said master computer provides for communication between said first slave computer and said second slave computer . . .***"

As also shown above, column 1, line 51 to column 2, line 15; and column 12, lines 51-67 of the '528 patent do not disclose, teach, or suggest Applicant's claimed master computer. Consequently, these portions of the '528 patent cannot disclose, teach, or suggest Applicant's claimed "***first slave computer located within one of said***

*first LAN and said second LAN, and a second slave computer located within one of said first LAN and said second LAN wherein said master computer provides for communication between said first slave computer and said second slave computer .”*

Column 13, lines 1-42 of the ‘528 patent apparently describe a home router. A home router both advertises over the internetwork its reachability to a mobile host and maintains a record of the current mobility binding data between the host’s constant address and local network address. The home router maintains binding data to bind a virtual address of a mobile host with a local address identifying a network and local node number at which a mobile host is actually attached in the network. Binding is described as an association between two pieces, strings, bytes, or other identifiable units of information to one another. Significantly, column 13, lines 1-42 of the ‘528 patent fail to describe, teach, or suggest Applicant’s claimed *“first slave computer located within one of said first LAN and said second LAN, and a second slave computer located within one of said first LAN and said second LAN wherein said master computer provides for communication between said first slave computer and said second slave computer .”* A router that advertises when it can access a mobile host and that maintains addresses associating the mobile host to a network does not disclose, teach, or suggest a *“first slave computer located within one of said first LAN and said second LAN, and a second slave computer located within one of said first LAN and said second LAN wherein said master computer provides for communication between said first slave computer and said second slave computer .”*

Furthermore, column 15, line 63 to column 16, line 27 (which encompasses column 16, lines 4-27; and column 15, line 63 to column 16, line 16 as cited in the statement of the rejection) do not teach this element. These portions of the ‘528 patent disclose that a router deals only with networks. Each individual network provides addressing for the nodes in the respective network. Because migrating or roaming from one network to another may confuse the network and/or the routers as to the address of a mobile host, a home router is configured to provide addressing and reachability for a mobile host that migrates across a router boundary. Applicant respectfully submits that a home router and the method for its use as described in the ‘528 patent does not disclose, teach, or suggest a *“first slave computer located within one of said first LAN and said second LAN, and a second slave computer located within one of said first LAN and said second LAN wherein said master computer*

*provides for communication between said first slave computer and said second slave computer .”*

For at least the additional reason that FIGs. 1-3 and 13 and the cited portions of the ‘528 patent do not disclose, teach, or suggest Applicant’s claimed first and second slave computers wherein said master computer provides for communication between said first slave computer and said second slave computer, the ‘528 patent does not anticipate Applicant’s claim 9. Accordingly, Applicant’s independent claim 9 is allowable.

Because independent claim 9 is allowable, dependent claims 10-15 which depend either directly or indirectly from claim 9 are also allowable. *See In re Fine*, 837, F.2d 1071, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Accordingly, Applicant respectfully requests that the rejection of claims 9 and 11-14 be withdrawn.

### **III. Claim Rejections Under 35 U.S.C. §103**

#### **A. Statement of the Rejections**

##### **1. Claims 1-4, 8, and 16-20**

Claims 1-4, 8, and 16-20 presently stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Open Service Gateway Architecture Overview, by Michael Condry et al. (hereafter *Condry*) in view of The Residential Gateway, by Clifford R. Holliday (hereafter *Holliday*.)

##### **2. Claims 5-7, 21, and 22**

Claims 5-7, 21 and 22 presently stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *Condry* in view of *Holliday* in further view of Internetworking with TCP/IP: Principles, Protocols, and Architectures, by Douglas E. Comer (hereafter *Comer*.)

##### **3. Claims 10 and 15**

Claims 10 and 15 presently stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over the ‘528 patent in view of *Holliday*.



**B. Discussion of the Rejections**

**1. Claims 1-4, 8, and 16-20**

Applicants respectfully traverse the rejection of these claims for at least the reason that the cited art references fail to disclose, teach, or suggest each element in the claims.

In order for a claim to be properly rejected under 35 U.S.C. §103, “[t]he PTO has the burden under section 103 to establish a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant’s disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

In this regard, the cited references fail to meet the burden of disclosing, teaching, or suggesting each feature of the claimed invention.

**a. Claims 1-8**

Applicants’ claim 1, is repeated below in its entirety.

1. A method of providing a software bridge/router within a small office, home office computer network comprising a series of computers, comprising the steps of:  
*determining a media access control address of each of said series of computers within said computer network;*  
receiving a request from a first computer within said computer network, to communicate with either a second computer within said computer network, or a wide area network (WAN);  
in response to said request being to communicate with said second computer, *determining whether the media access control address of said second computer has previously been determined;*  
in response to said request being to communicate with said WAN, *performing a protocol conversion and providing communication between said first computer and said WAN;* and  
if said media access control address of said second computer has previously been determined, providing communication between said first computer and said second computer.

(Applicant's independent claim 1 - *emphasis added*.)

Applicant respectfully asserts that the cited art of record fails to disclose, teach, or suggest at least the elements and limitations of pending claim 1 emphasized above. Consequently, claim 1 is allowable.

*Condry* apparently discloses the Java-based Open Service Gateway Architecture for providing services in a home or small office network. The statement of the rejection in the Office Action alleges that the Open Service Gateway Architecture teaches determining a media access control address of each of a series of computers within the computer network. (Office Action, Paper No. 4, page 5, item 20.) Applicant respectfully disagrees with this interpretation of *Condry*.

The referenced portion of *Condry* apparently describes a framework for discovering home appliances from a service gateway. The framework described in *Condry* not only fails to disclose using a media access control address, *Condry* teaches away from Applicant's claimed step of "***determining a media access control address of each of said series of computers within said computer network.***" *Condry* specifically states, "The essential goals here are to provide a framework for discovering - when possible - and managing hardware equipment. This should be independent from the type of network the device is connected to (e.g., HAVI, Lonworks, X10, etc.)." In contrast, a media access control address is network dependent. A media access control address is a hardware address that uniquely identifies each node of a network. In IEEE 802 networks, the data link control layer of the OSI reference model is divided into two sub layers: the logical link control layer and the media access and the media access control layer. The media access control layer interfaces directly with the network media. Consequently, each different type of network media requires a different media access control layer.

The framework, described in *Condry*, includes device bundles, network bundles, and a DeviceManager service. The network bundle encapsulates information about devices in a DeviceDescriptor instance. The network bundle also creates a DeviceConnection instance to access a specific appliance on the network. The network bundle passes the DeviceConnection to the DeviceManager service. Absent from this entire framework is a teaching of Applicant's claimed step of "***determining***

*a media access control address of each of said series of computers within said computer network.*" Consequently, *Condry* does not disclose, teach, or suggest at least this step of Applicant's claimed method.

Because *Condry* does not disclose, teach, or suggest "*determining a media access control address*," *Condry* cannot disclose, teach, or suggest Applicant's claimed step of "in response to said request being to communicate with said second computer, *determining whether the media access control address of said second computer has previously been determined.*" Consequently, *Condry* does not disclose, teach, or suggest at least this step of Applicant's claimed method.

Applicant agrees with the statement of the rejection that *Condry* does not teach performing a protocol conversion and providing communication between the first computer and the WAN. In an effort to remedy the failure of *Condry* to disclose this step, the Office Action rejection alleges that *Holliday* teaches performing a protocol conversion and providing communication between the first computer and the WAN. (Office Action, Paper No. 4, page 6, item 25.) Because *Condry* fails to disclose, teach, or suggest at least the emphasized method steps of Applicant's claim 1 and because *Holliday* does not remedy the failure of *Condry* to disclose, teach, or suggest at least the emphasized steps as shown above, Applicant submits that the proposed combination fails to establish a *prima facie* case for obviousness concerning independent claim 1. Consequently, for at least this reason, claim 1 is allowable and the rejection of claim 1 should be withdrawn.

Dependent claims 2-8 are also allowable, as a matter of law, since these dependent claims contain all elements, features, or steps of independent claim 1. See *In re Fine, supra*. Accordingly, Applicant submits that the rejection of claims 1-4 and 8 should be withdrawn.

**b. Claims 16-20**

Applicants' claim 16 is repeated below in its entirety.

16. A system for providing a software bridge/router within a small office, home office computer network comprising a series of computers, comprising;  
*a means for determining a media access control address of each of said series of computers within said computer network;*

a means for receiving a request from a first computer within said computer network, to communicate with either a second computer within said computer network, or a wide area network (WAN);

a means for determining whether the media access control address of said second computer has previously been determined;

a means for performing a protocol conversion and providing communication between said first computer and said WAN; and

a means for providing a communication between said first computer and said second computer.

(Applicant's independent claim 16 - *emphasis added*.)

Applicants respectfully assert that the cited art of record fails to disclose, teach, or suggest at least the element and limitation of pending claim 16 emphasized above. Consequently, claim 16 is allowable.

As described above, the framework for discovering home appliances from a service gateway described in *Condry* not only fails to disclose using a media access control address, *Condry* teaches away from Applicant's claimed "***means for determining a media access control address of each of said series of computers within said computer network.***" Moreover, *Holliday* fails to remedy this failure of *Condry*. Thus, the proposed combination of *Condry* and *Holliday* fail to disclose, teach, or suggest every element and limitation of claim 16.

Because *Condry* fails to disclose, teach, or suggest at least the emphasized element of Applicant's claim 16 and because *Holliday* does not remedy the failure of *Condry* to disclose, teach, or suggest at least the emphasized element as shown above, Applicant submits that the proposed combination fails to establish a *prima facie* case for obviousness concerning independent claim 16. Consequently, for at least this reason, claim 16 is allowable and the rejection of claim 16 should be withdrawn.

Dependent claims 17-22 are also allowable, as a matter of law, since these dependent claims contain all elements, features, or steps of independent claim 16. See *In re Fine, supra*. Accordingly, Applicant submits that the rejection of claims 16-20 should be withdrawn.

**2. Claims 5-7, 21 and 22**

As shown above, Applicant's independent claims 1 and 16 are allowable over the proposed combination of *Condry* and *Holliday*. Applicant agrees with the statement of the rejection that "*Condry* and *Holliday* do not teach wherein the step of determining a media access control address of each of the computers is performed by a first computer that then stores the media access control address of each of the computers is performed by a first computer that then stores the media access control addresses within an address table." (Emphasis added.) In an effort to remedy the failure of *Condry* and *Holliday* to disclose, teach, or suggest this step, the Office Action rejection alleges that *Comer* teaches the claimed step.

Because *Condry* fails to disclose, teach, or suggest at least the emphasized elements of Applicant's claims 1 and 16 and because *Holliday* in further view of *Comer* does not remedy the failure of *Condry* to disclose, teach, or suggest at least the emphasized element as shown above, Applicant submits that the proposed combination fails to establish a *prima facie* case for obviousness concerning dependent claims 5-7, 21, and 22. See *In re Fine, supra*. Consequently, for at least this reason, claims 5-7, 21, and 22 are allowable and the rejection of these claims should be withdrawn.

**3. Claims 10 and 15**

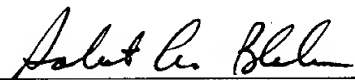
As shown above, Applicant's independent claim 9 is allowable over the '528 patent. Applicant agrees with the statement of the rejection that "Shuen (the '528 patent) does not teach wherein the SOHO is connected to the WAN via a digital subscriber line (DSL)." (Information in parentheses added.) In an effort to remedy the failure of the '528 patent to disclose, teach, or suggest this limitation, the Office Action rejection alleges that *Holliday* teaches the claimed limitation.

Because the '528 patent fails to disclose, teach, or suggest at least the emphasized elements of Applicant's claim 9 and because *Holliday* does not remedy the failure of the '528 patent to disclose, teach, or suggest at least the emphasized elements of claim 9 as shown above, Applicant submits that the proposed combination fails to establish a *prima facie* case for obviousness concerning dependent claims 10 and 15. See *In re Fine, supra*. Consequently, for at least this reason, claims 10 and 15 are allowable and the rejection of these claims should be withdrawn.

**CONCLUSION**

In summary, Applicant respectfully requests that the rejection of claims 1-22 be withdrawn. Applicant respectfully submits that presently pending claims 1-22 are allowable and the present application is in condition for allowance. Accordingly, a Notice of Allowance is respectfully solicited. Should the Examiner have any comments regarding the Applicant's response, Applicant requests that the Examiner telephone Applicant's undersigned attorney.

Respectfully submitted,  
**THOMAS, KAYDEN, HORSTEMEYER  
& RISLEY, L.L.P.**

By:   
Robert A. Blaha  
Registration No. 43,502

**THOMAS, KAYDEN, HORSTEMEYER  
& RISLEY, L.L.P.**  
100 Galleria Parkway, Suite 1750  
Atlanta, Georgia 30339-5948  
(770) 933-9500

**APPENDIX - A**